Area. Indian Council of Agricultural Research, New Delhi.

GREWAL, B. (1996): Bristled Grassbird *Chaetornis striatus* at Okhla, Delhi. *Oriental Bird Club Bulletin 24*: 43-44.

HUTSON, H.P.W. (1954): The Birds about Delhi. The Delhi Birdwatching Society, Delhi.

RAHMANI, A.R. (1998): A possible decline of vultures in India. *Oriental Bird Club Bulletin 28*: 40-41.

URFI, A.J. (1993): The Birdlife of Okhla. *Sanctuary Magazine* 13/15 *1993*: 50-53.

VYAS, S. (1995): Checklist of the Birds of the Delhi Region: An Update. *J. Bombay nat. Hist. Soc. 93*: 219-237.

26. THE GHARIAL *GAVIALIS GANGETICUS* IN INDRAVATI RIVER?

Occurrence of the gharial (*Gavialis gangeticus*) in River Mahanadi, Orissa was often thought to be an exception. However, data presented in Singh and Bustard (1982a, 1982b) and Singh (1992) suggested occurrence of gharial in all major rivers of Orissa and in the Godavari in Andhra Pradesh. There was no information, then, from the River Indravati, Madhya Pradesh State.

When one of us (MKR) was in the Indravati area during 1981, a person informed of the occurrence of a long snouted crocodilian in the river some 16-20 years earlier, estimated to be around the late 1960s. The description obviously referred to the gharial, and differed from the description of the short snouted mugger (*Crocodylus palustris*). In 2000, when other people in the same area were interviewed by MKR, they had no idea of the occurrence of the gharial in Indravati river. The people questioned were young and probably had had no exposure to the previous generation's experiences. The presence of gharial in the River Indravati appeared to have vanished from the memory of the locals.

Nonetheless, the single piece of information about the gharial's occurrence in Indravati in the late 1960s bridges the gap in the distribution of the gharial, strengthening the view that *Gavialis gangeticus* had a continuous distribution from River Mahanadi to Godavari along eastern India.

Any further information on the gharial's occurrence in Orissa, Madhya Pradesh and Andhra Pradesh will be gratefully acknowledged.

January 18, 2002

M. K. RANJITSINH
Krishnasar, 5, Tiger Lane, Off W6 Lane, Sainik Farms, New Delhi 100 062, India.

L.A.K. SINGH
Similipal Tiger Reserve, Baripada, Orissa 757 002, India.

REFERENCES

SINGH, L.A.K. & H.R. BUSTARD (1982a): Geographical distribution of the gharial *Gavialis gangeticus* (Gmelin) in Orissa, India. *British Journal of Herpetology* 6, (1982): *(7)*: 259-260.

SINGH, L.A.K. & H.R. BUSTARD (1982b): The extinction of the gharial *Gavialis gangeticus* (Gmelin) from the Brahmani and Baitarani rivers in Orissa. *J. Bombay nat. Hist. Soc. 79(2)*: 424-426.

SINGH, L.A.K. (1992): Distribution of *Gavialis gangeticus*. *Hamadryad 16(1,2)*: 39-46.

27. COMMUNAL EGG LAYING BY *CNEMASPIS INDICA* IN MUKURUTHI NATIONAL PARK, WESTERN GHATS, INDIA

(*With one text-figure*)

Indian geckoes are largely nocturnal, except species belonging to the genera *Cnemaspis* and *Phelsuma*. The biology of species referred to *Cnemaspis* is poorly known. In the present paper,

we report some aspects of the breeding biology, especially egg laying by *Cnemaspis indica* in Mukuruthi National Park (11° 10'-11° 22' N, 76° 26'-76° 38' E), Nilgiri Biosphere Reserve, Western Ghats. *C. indica* is common in the high altitude montane grasslands, especially 2,000-2,500 m above msl. Currently, the true montane grasslands and shola are restricted to the Mukuruthi National Park, Tamil Nadu and adjacent areas in Kerala in the Nilgiris.

We sampled about 0.5 ha of grassland every month from October 2000 to April 2001, using randomly placed 25 sq. m quadrats. Fifteen nest sites with eggs were located during this period. The nests were found in crevices, under boulders that were usually placed on a rocky substratum. The number of eggs found in a site varied from 2 to 70 ($\bar{x}$ = 15.2, SD = ±21.6, n = 15). Mean length and width of 58 eggs found in a site was 5.5 mm and 4.4 mm, respectively.

The gecko nests were observed from October to April, and the greatest number of nests and eggs were found during December-February (Fig. 1). This shows that *C. indica* has an extended breeding season, October-April, with a peak during mid-winter. All nests found during January had many hatched eggs. This indicates that eggs did not hatch synchronously, and were laid on different days. More than one female would have used the same site for depositing eggs. In each nest, eggs were stuck to the rock in groups of three or two, or singly. A nest observed in February 2001 had 58 eggs, which were arranged in groups of three (7 clutches), two (13 clutches) and single eggs (11 clutches) totaling 31 clutches. Clutch size of the day geckoes in general is reported as 2-3 (Smith 1935).

Apart from several females laying eggs at the same site, it is possible that each one may

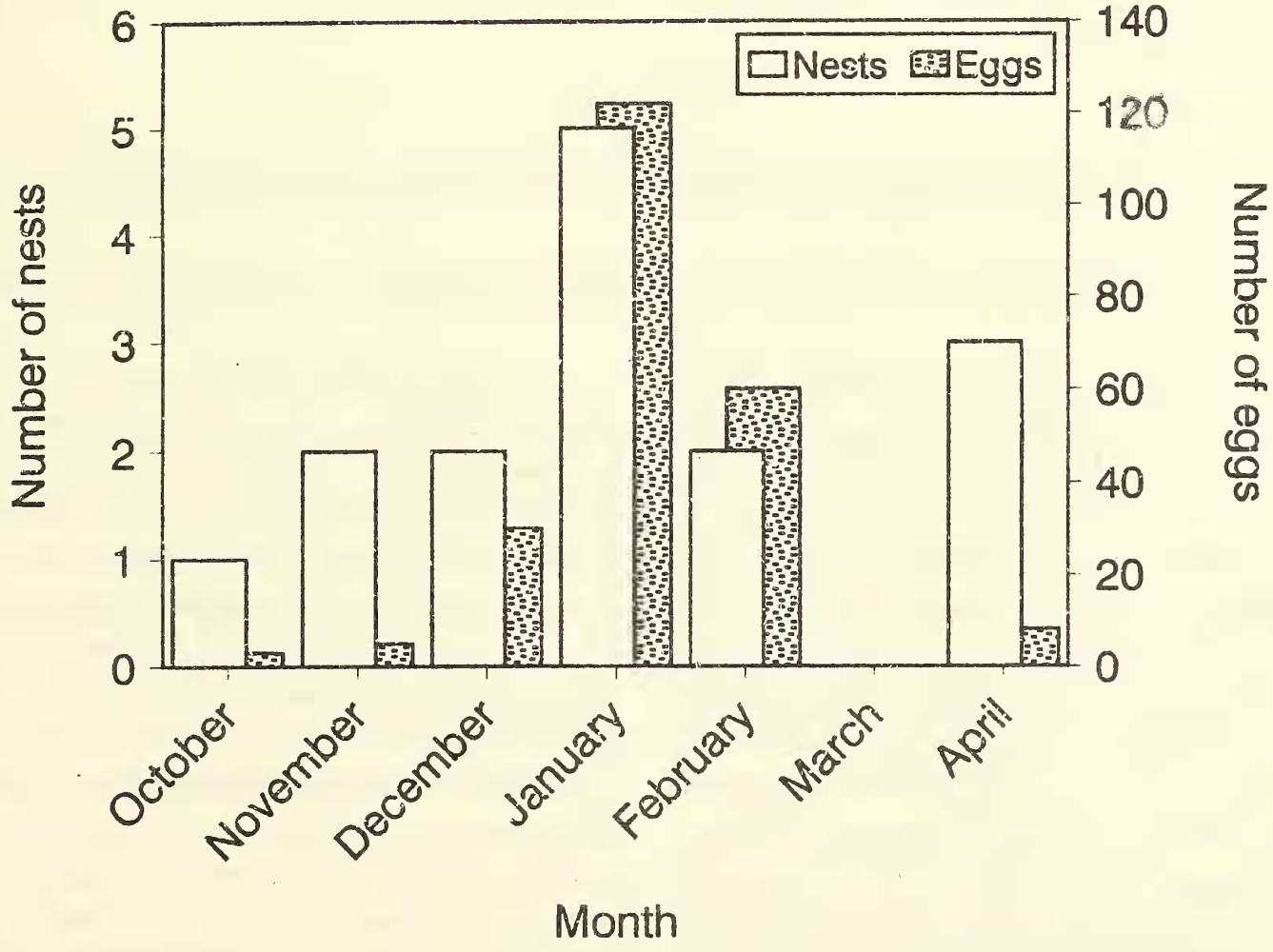

Fig. 1: Egg laying of *Cnemaspis indica* in Mukuruthi National Park, Western Ghats

have laid eggs more than once. However, the inter-nesting period is not known. The laying of eggs collectively by several females in the same site could be due to the scarcity of suitable sites. It appears that these sites have some specific microclimate such as temperature. Preliminary observations show that these sites have higher temperature than the general atmosphere. Warmer nest conditions may help faster embryonic development and hatching. Communal nesting (Smith 1935) in a suitable site is not uncommon in geckoes. Thirty eggs of *Hemidactylus frenatus* have been found in a wooden box embedded in the wall (Bhupathy, unpublished data). Many females of the endemic and endangered golden gecko, *Calodactylodes aureus* also deposit eggs collectively, and the number of eggs may exceed 40 at each site (Daniel, J.C. pers. comm.). Smith (1935) reported the largest number of 186 eggs in a nest of *Gekko japonicus*, perhaps an instance of communal egg laying.

ACKNOWLEDGEMENTS

This paper is part of a study funded by the Biosphere Programme (F.No. 10/14/97-CS) of the Ministry of Environment and Forests, Government of India. We thank R.K. Rai, Additional Director, Biosphere Programme, for timely release of funds, and colleagues at SACON for encouragement. We are grateful to R.P.S. Kotwal, Chief Wildlife Warden, Tamil Nadu and S. Paulraj, Wildlife Warden, Nilgiris for permission to work in the protected area and for logistic support.

March 13, 2002

S. BHUPATHY
A.M.A. NIXON
Sálim Ali Centre for Ornithology and Natural History,
P.O. Anaikatti,
Coimbatore 641 108,
Tamil Nadu,
India.

REFERENCE

SMITH, M.A. (1935): The Fauna of British India. Reptilia and Amphibia. Vol II. Sauria. Taylor and Francis, London. 440 pp.

28. RANGE EXTENSION OF *RANA MALABARICA* (BIBR.) IN MADHYA PRADESH

One night in August 1999, while driving back to my camp (Wild Chalet, Mocha village), in the buffer zone of Kanha National Park in Madhya Pradesh, I stopped to watch a frog crossing the road. It looked like an interesting species, but I was unable to get down immediately as it was raining. Since I had seen similar frogs earlier in South West India, it did not take me long to identify it as the fungoid frog *Rana malabarica* (Bibr.). I never knew that this frog existed as far north as Mandla district in Madhya Pradesh, and after my first sighting, I kept a lookout for it to photograph and confirm my identification. I did not see that species during that season, but I instructed my local assistants to keep a lookout.

In May 2000, after a couple of pre-monsoon showers, a friend informed me that he had seen a number of colourful frogs in a newly dug well in the village of Mocha. I asked him to procure a specimen immediately, which he did. The live frog in a bottle confirmed the existence of *Rana malabarica* around Kanha. I kept the frog for about 24 hours and released it after photographing it. I went around the village trying to gather more information about this species, and saw some individuals in two or three wells (in May and June) sitting on the sides above the water. I never saw them actually living in water and I support the earlier observations on habits (Daniel 1975).